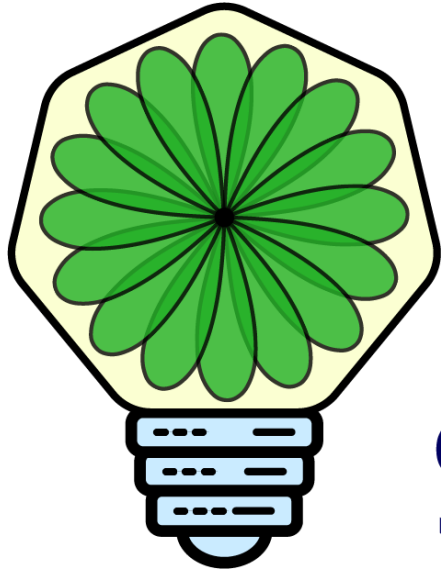




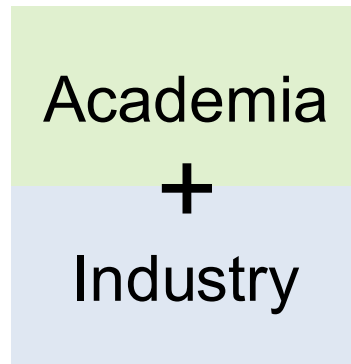
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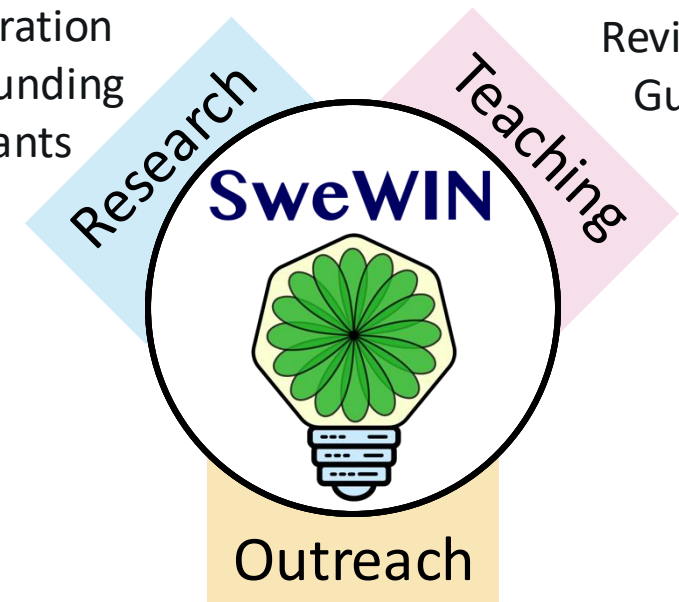
SweWIN is a Competence Center: What is that?

10
year
effort



2024-2033

Research collaboration
Basic long-term funding
Attract new grants



Revise curriculum
Guest lectures

Physical workshops
Online seminars
Social media



SAAB



Wireless expertise

Hardware

Algorithms, protocols

Applications

5G



Emil Björnson

Director

Professor KTH

Research From Hardware to Applications



1. Radio electronics and antennas

Leader: Oscar Quevedo-Teruel



2. Physical layer and network architecture

Leader: Emil Björnson



3. Resource management and orchestration

Leader: Cicek Cavdar



4. Resilience and security

Leader: Mikael Skoglund



5. Learning and optimisation

Leader: Carlo Fischione



6. Wireless functional safety

Leader: Zhibo Pang

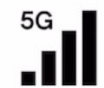


**What research problems
are left to solve?**

5G Is already fast!



Measure again



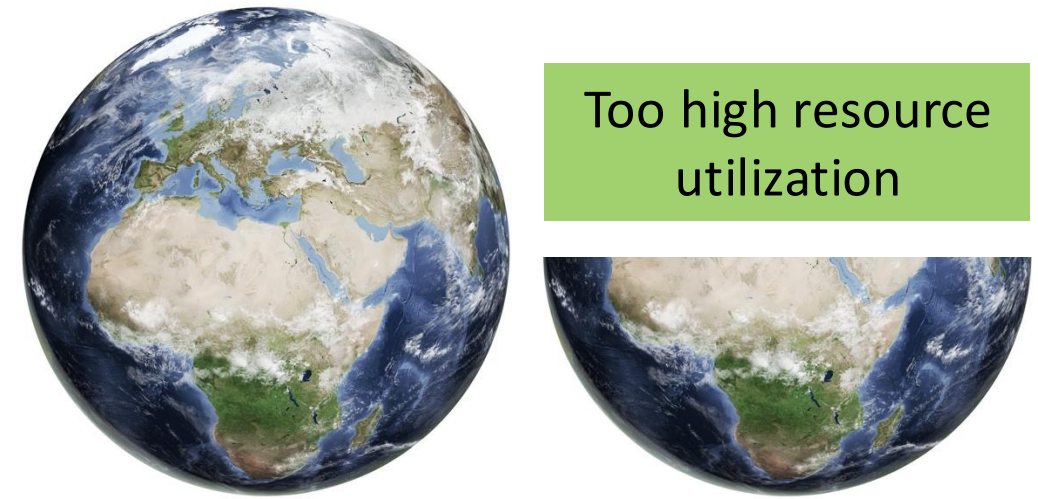
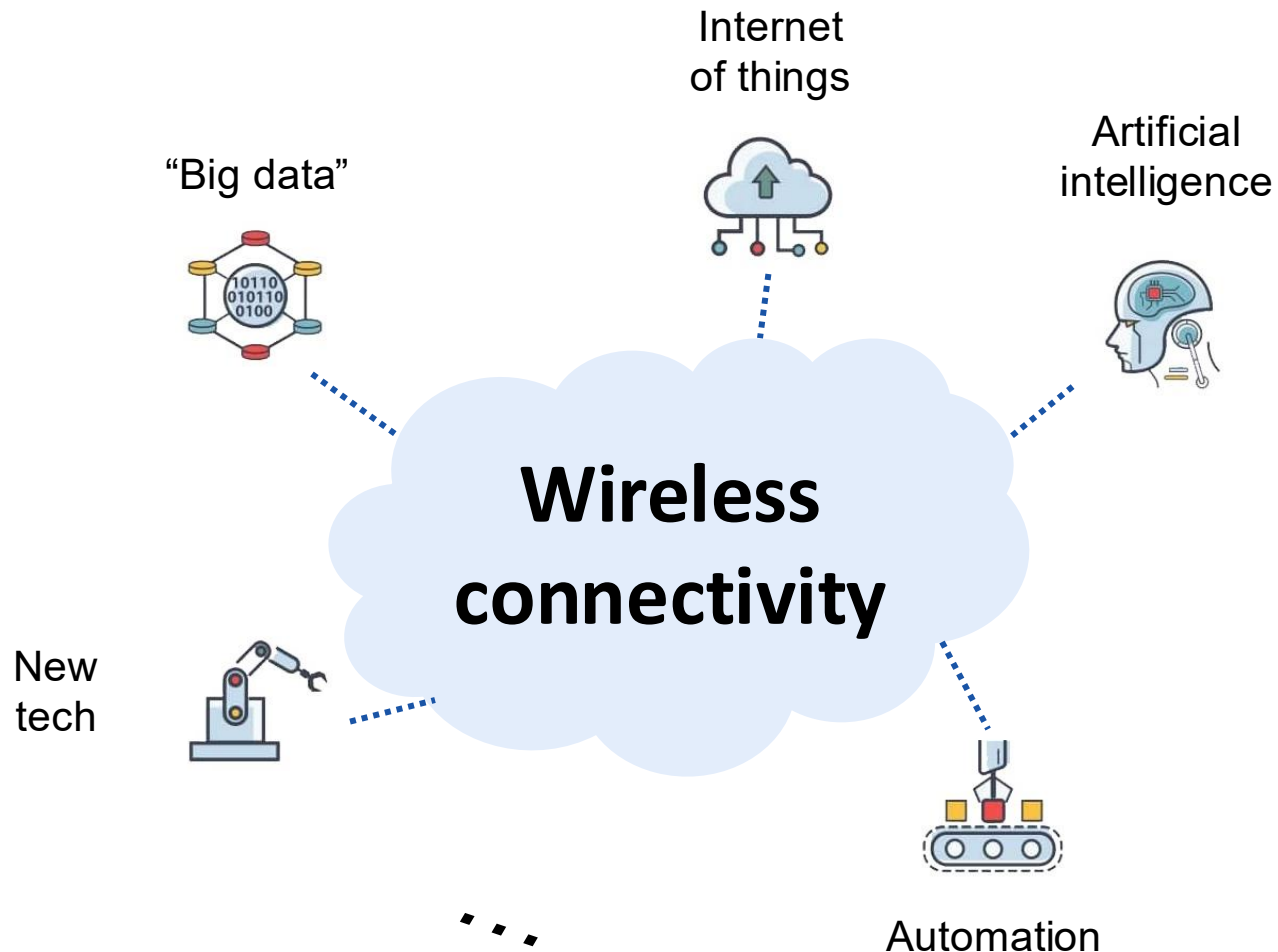
↓ DOWNLOAD
957,25 Mbit/s

↑ UPLOAD
156,82 Mbit/s

⦿ LATENCY
09,99 ms



The Major Societal Challenge: **Sustainability**



Too high resource
utilization

Economic growth:
Improved living standard

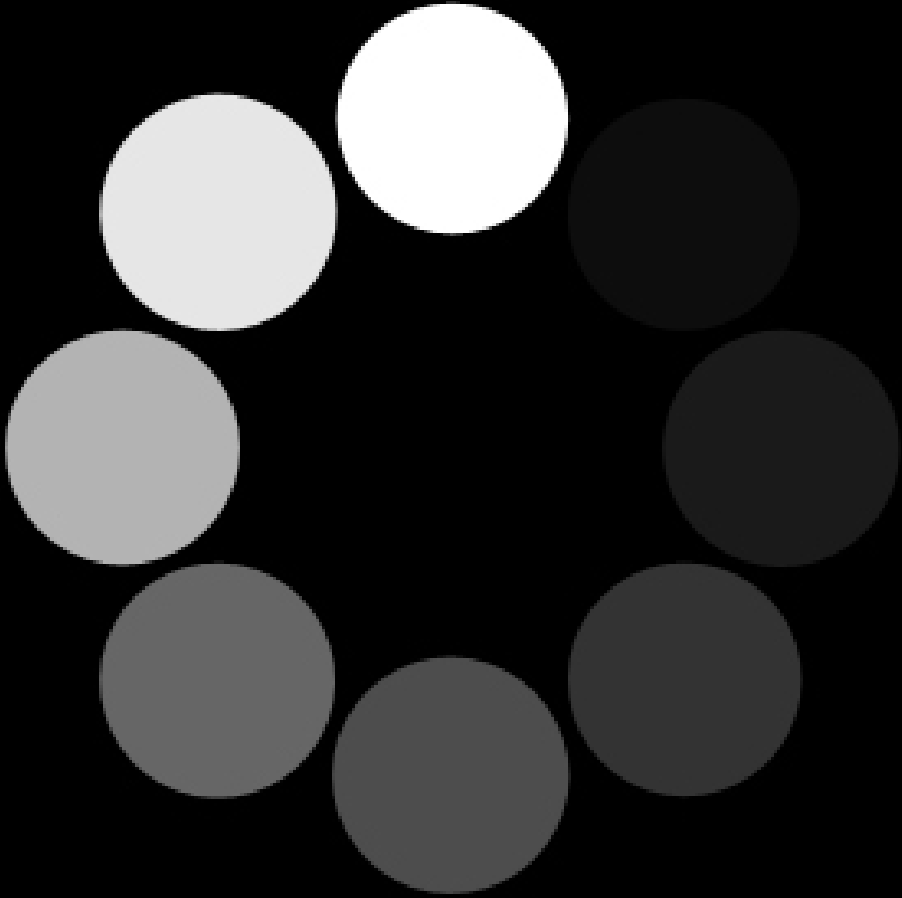


More efficient
resource utilization



Key: Digital transformation

Growing demands on wireless technology



1. Availability



2. Trustworthiness



3. Green technology

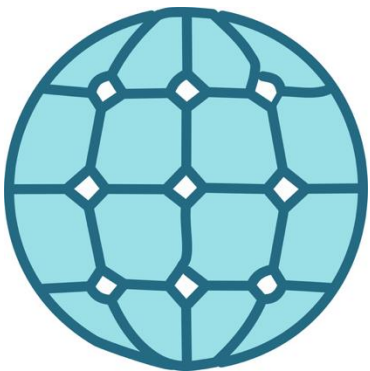
5G

Performance metrics

Data rate
Bandwidth
Latency
...

Time to shift focus to new metrics and functionalities

Digitalization with integrated communication, sensing and localization



Green technology

Hardware,
infrastructure,
orchestration, etc.

Trustworthiness

Predictable latency and
data rate

Robustness against
disturbances

Availability

Connectivity
everywhere

Cost efficiency



“Realizing sustainable, resilient, and fair wireless communication and sensing in the digitalised era”



Swedish Wireless Innovation Network

A Competence Center Realizing Sustainable, Resilient, and Fair Wireless Communication and Sensing in the Digitalised Era.

Connect with us on SweWIN!

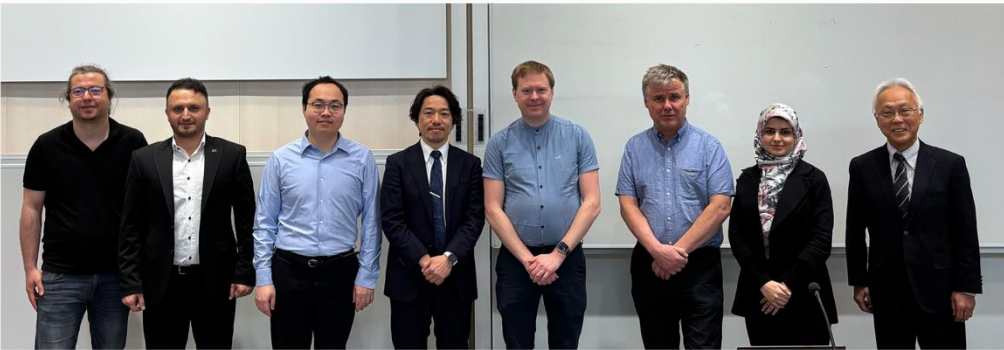


Director: Emil Björnson, emilbjo@kth.se
Vice-director: Anass Sedrati, anass@kth.se
Website: <https://www.kth.se/swewin>

Workshop on Near-Field Communications with KVA-JSPS Seminar

May 19

SweWIN hosted a distinguished KVA-JSPS Seminar on near-field communications and sensing by Prof. Koji Ishibashi with 55 attendees, followed by a workshop discussing recent research and future prospects of the topic.



Digital Futures KTH 6G Summit

On September 12, 2025, leading experts from academia, industry, and government gathered at KTH's AlbaNova campus for the Digital Futures 6G Summit, a full-day event focused on the future of next-generation wireless networks. SweWIN participated actively in the day, through its director Emil Björnson, who presented the center, in front of over 80 participants who took part in the event. The area leader Cicek Cavdar represented SweWIN in the technical programme committee.



Panel Session during 6G Summit

Sept 12

KTH-Aachen Wireless Networking Workshop

Aug 20

SweWIN, in collaboration with Digital Futures, organized the first Wireless Networking Workshop between KTH Royal Institute of Technology and RWTH Aachen University. The event, that happened on August 20, 2025, took place in the Digital Futures hub at the KTH campus and saw the participation of 43 people. It brought together researchers for a day of discussion on the future of wireless networking. The talks covered critical and emerging topics in 6G and beyond.



Workshop on AI and Communication Systems

SweWIN hosted its third wireless innovation workshop, this time with the theme of artificial intelligence (AI) and Communication systems. This event was an occasion for the center to host participants at its new location (Malvinas väg 10, at KTH main campus) after moving from Kista in August 2025. 47 people attended the half-day workshop, where they had the opportunity to listen and engage with presenters who shared different perspectives and reflections on the relationship between AI and communication systems.



Oct 15

Welcome to:

SweWIN Webinar #2

Prof. Angeliki Alexiou

[Register](#)

Registration closes November 12, 2025 at 3:00 PM

Event starts in

15	18	2	15
days	Hours	minutes	Seconds



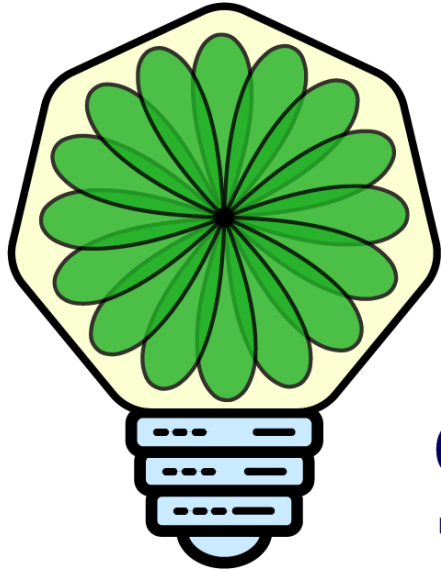
Welcome to the second SweWIN webinar, part of our newly launched monthly seminars, that will take place online (Zoom) on **November 12, between 15.00 - 16.00 CET.**

For this episode, we are happy to welcome, professor Angeliki Alexiou, who will deliver a lecture on **"Unlocking the potential of Near-Field Communications for Perceptive Wireless Intelligence"**



STARTS:
2025-11-12 at 3:00 PM

ENDS:
at 4:00 PM



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